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APPLICANT : MITSUI TOATSU CHEM INC;

INVENTOR : ISHINO MOTOATSU;

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TITLE : IMPACT-RESISTANT POWDER COATING COMPOSITION

ABSTRACT : PURPOSE: To obtain a powder coating composition having excellent impact resistance, weather resistance, acid resistance, solvent resistance and hardness of coating film, containing an acrylic copolymer prepared by the polymerization of an epoxy group-containing monomer, a polyfunctional carboxylic acid and a specific graft copolymer.

CONSTITUTION: This composition contains (A) an acrylic copolymer prepared by polymerizing an epoxy group-containing monomer (e.g. glycidyl methacrylate) and/or a copolymerizable monomer [e.g. methyl (meth)acrylate], (B) a polyfunctional carboxylic acid (e.g. adipic acid or dodecanedioic acid) and (C) a graft copolymer comprising a synthetic rubber obtained by polymerizing a diene monomer (e.g. butadiene or isoprene) and/or an unsaturated monomer (e.g. 2-ethylhexyl acrylate) as a core component and a vinyl polymer [e.g. a (co)polymer of hydroxyethyl (meth)acrylate, (meth)acrylic acid or styrene] as a shell component.

- [003] 018 ; G0022-R D01 D51 D53 D23 D22 D73 D42 F47 ; G0340-R G0339 G0260 G0022 D01 D12 D10 D26 D51 D53 D58 D63 F41 F89 G0384-R D11 D87 D88 D89 D90 D91 D92 D93 D94 D95 ; R00708 G0102 G0022 D01 D02 D12 D10 D19 D18 D31 D51 D53 D58 D76 D88 ; P0464-R D01 D22 D42 F47 ; M9999 M2073 ; L9999 L2391 ; L9999 L2073 ; S9999 S1514 S1456 ; K9461 ; H0033 H0011 ; P1741 ; P0088 ;
- [004] 018 ; ND01 ; Q9999 Q7158-R Q7114 ; B9999 B4988-R B4977 B4740 ; B9999 B5094 B4977 B4740 ; B9999 B3816 B3747 ; B9999 B4728 B4568 ; B9999 B5276-R ; K9483-R ; K9676-R ; K9687 K9676 ; K9712 K9676 ; K9745-R ; N9999 N6144 ; N9999 N6780-R N6655 ; K9665 ; K9949 ;
- [005] 018 ; B9999 B5618 B5572 ;
- [006] 018 ; A999 A157-R ;

A02 - [001] 018 ; P0839-R F41 D01 D63 ; M9999 M2073 ; L9999 L2391 ; L9999 L2073 ; S9999 S1514 S1456 ; K9461 ;
- [002] 018 ; ND01 ; Q9999 Q7158-R Q7114 ; B9999 B4988-R B4977 B4740 ; B9999 B5094 B4977 B4740 ; B9999 B3816 B3747 ; B9999 B4728 B4568 ; B9999 B5276-R ; K9483-R ; K9676-R ; K9687 K9676 ; K9712 K9676 ; K9745-R ; N9999 N6144 ; N9999 N6780-R N6655 ; K9665 ; K9949 ;
- [003] 018 ; A999 A157-R ;

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DC - A13 A14 A82 G02
FS - CPI
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MC - A04-F06E7 A05-E01D1 A07-A04D A08-C01 A12-B01E G02-A02C1 G02-A02E
PA - (KAPA ) KANSAI PAINT CO LTD
PN - JP11080606 A 19990326 DW199923 C09D5/03 006pp
PR - JP19970238757 19970904
XA - C1999-079350
XIC - C08J-003/12 ; C09D-005/03 ; C09D-157/06 ; C09D-163/00
AB - J11080606 Producing a heat curable powder paint comprises preparing a solution of (A) a radically polymerised copolymer below, (B) a polyester resin having a no. av. mol. wt. of 400-5,000, (C) a crosslinking agent having a functional gp. to react with glycidyl gp. which are dissolved in a solvent (D) comprising 50-100 wt% tert-butanol, 0-50 wt% dioxane and 0-20 wt% another solvent other than the above and making it powder by freeze drying in vacuo. (A) : a copolymer of 20-50 wt% (a) a vinyl monomer having glycidyl gp., 50 - 80 wt% (b) another radically polymerisable vinyl monomer contg.than the above Also claimed are the following. The solvent comprises at least 80 wt% tert-butanol. The copolymer (A) has a glass transition temp. of 40-100 deg. C and a no. av. mol. wt. of 1,000-10,000. The copolymer is a copolymer of 0-35 wt% styrene and 20-65 wt% a (meth) acrylate having at least 4C branched or cyclic substituent at the side chain.
- ADVANTAGE - The heat curable powder paint made by the method gives a coating film having improved scratch resistance, weatherability and surface appearance.
- (Dwg.0/0)
IW - HEAT CURE POWER PAINT MANUFACTURE PREPARATION SOLUTION RADICAL POLYMERISE COPOLYMER POLYESTER RESIN CROSSLINK AGENT
IKW - HEAT CURE POWER PAINT MANUFACTURE PREPARATION SOLUTION RADICAL POLYMERISE COPOLYMER POLYESTER RESIN CROSSLINK AGENT
NC - 001
OPD - 1997-09-04
ORD - 1999-03-26
PAW - (KAPA ) KANSAI PAINT CO LTD
TI - Heat curable power paint manufacture - by preparing a solution of radically polymerised copolymer, polyester resin, crosslinking agent etc.
A01 - [001] 018 ; H0022 H0011 ; G0022-R D01 D51 D53 D23 D22 D73 D42 F47 ; G0340-R G0339 G0260 G0022 D01 D12 D10 D26 D51 D53 D58 D63 F41 F89 G0384-R D11 D87 D88 D89 D90 D91 D92 D93 D94 D95 ; P0464-R D01 D22 D42 F47 ; M9999 M2073 ; L9999 L2391 ; L9999 L2073 ; S9999 S1514 S1456 ; K9461 ; P0088 ;
- [002] 018 ; H0022 H0011 ; G0022-R D01 D51 D53 D23 D22 D73 D42 F47 ; R00708 G0102 G0022 D01 D02 D12 D10 D19 D18 D31 D51 D53 D58 D76 D88 ; P0464-R D01 D22 D42 F47 ; M9999 M2073 ; L9999 L2391 ; L9999 L2073 ; S9999 S1514 S1456 ; K9461 ; P1741 ;